



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0462; Product Identifier 2019-SW-021-AD; Amendment 39-21309; AD 2020-22-13]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Airbus Helicopters Model AS332C1 and AS332L1 helicopters. This AD was prompted by a report that the affected helicopters use the same “flight/ground” logic signal, instead of independent redundant signals. This AD requires amending the emergency procedures of the existing rotorcraft flight manual (RFM) for your helicopter, a wiring modification of the “flight/ground” logic signal source of the attitude and heading reference system (AHRS) 1, and then removal of the amendment to the existing RFM for your helicopter. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Airbus Helicopters, 2701 N Forum Drive, Grand Prairie, TX 75052; phone: (972) 641-0000 or (800) 232-0323; fax: (972) 641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0462; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: George Schwab, Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: 817-222-5110; email: george.schwab@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Airbus Helicopters Model AS332C1 and AS332L1 helicopters. The NPRM published in the *Federal Register* on June 4, 2020 (85 FR 34375). The NPRM was prompted by a report that the affected helicopters use the same “flight/ground” logic signal instead of independent redundant signals. The NPRM proposed to require amending the emergency procedures of the existing RFM for your helicopter, a wiring modification of the “flight/ground” logic signal source of the AHRS 1, and then removal of the amendment to the existing RFM for your helicopter. The FAA is issuing this AD to address certain helicopters that use the same “flight/ground” logic signal, instead of independent redundant signals. If both AHRS incorrectly receive “ground” status in flight, as a result for instance of a single failure, this will generate consistent erroneous computation of the attitudes and vertical speed during helicopter maneuvers with consequent incorrect flight data indications to the flight crew on both primary displays. Erroneous flight information could lead to increased workload for the flight crew when the upper modes of the automatic flight control system are not engaged, possibly resulting in reduced control of the helicopter during high speed maneuvers in instrumental meteorological conditions (IMC).

EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2019-0021, dated February 1, 2019; corrected February 4, 2019 (EASA AD 2019-0021) (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain

Airbus Helicopters Model AS332C1 and AS332L1 helicopters. EASA advises that the AHRS 1 and AHRS 2 installed on AS332C1e and AS332L1e helicopters use the same “flight/ground” logic signal, instead of independent redundant signals, as required by the original design specification. If both AHRS incorrectly receive “ground” status in flight, as a result for instance of a single failure, this will generate consistent erroneous computation of the attitudes and vertical speed during helicopter maneuvers with consequent incorrect flight data indications to the flight crew on both primary displays. EASA AD 2019-0021 states that this condition, if not corrected, could lead to increased workload for the flight crew when the upper modes of the automatic flight control system are not engaged, possibly resulting in reduced control of the helicopter during high speed maneuvers in IMC.

EASA further advises that Airbus Helicopters has issued rush revisions to the RFM, and developed a modification of the wiring harness, ensuring independent sources of the “flight/ground” logic signal for both AHRS. EASA AD 2019-0021 requires amending the emergency procedures of the applicable RFM, doing the modification of the wiring harness, and then removing the amendment to the RFM.

You may examine the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0462.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes.

The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information under 1 CFR Part 51

Airbus Helicopters has issued Alert Service Bulletin No. AS332-34.00.60, Revision 1, dated March 29, 2019. This service information describes procedures for a wiring modification of the “flight/ground” logic signal source of the AHRS 1, which changes the “flight/ground” logic signal source to independent redundant signals.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

Airbus Helicopters has issued Alert Service Bulletin No. AS332-34.00.60, Revision 0, dated December 6, 2018. The service information describes procedures for a wiring modification of the “flight/ground” logic signal source of the AHRS 1, which changes the “flight/ground” logic signal source to independent redundant signals. Airbus Service Bulletin No. AS332-34.00.60, Revision 1, dated March 29, 2019, clarifies the

procedures for the post-installation test in Alert Service Bulletin No. AS332-34.00.60, Revision 0, dated December 6, 2018.

Differences Between This AD and the MCAI or Service Information

EASA AD 2019-0021 specifies to do the modification within 6 months. This AD requires the modification be done within 100 hours time-in-service or before intentional flight into IMC, whichever occurs first. The FAA has determined this compliance time represents the maximum interval of time allowable for the affected helicopters to continue to safely operate before the modification is done.

Costs of Compliance

The FAA estimates that this AD affects 8 helicopters of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
7 work-hours X \$85 per hour = \$595	\$40	\$635	\$5,080

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2020-22-13 **Airbus Helicopters:** Amendment 39-21309; Docket No. FAA-2020-0462;
Product Identifier 2019-SW-021-AD.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER
DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Airbus Helicopters Model AS332C1 and AS332L1
helicopters, certificated in any category, all manufacturer serial numbers, equipped with
an Advanced Helicopter Cockpit & Avionics System (AHCAS), except helicopters that
have Airbus Helicopters modification 0728576 embodied in production.

(d) Subject

Joint Aircraft Service Component (JASC) Code 3420, Attitude and direction data
system.

(e) Reason

This AD was prompted by a report that the affected helicopters use the same
“flight/ground” logic signal, instead of independent redundant signals. The FAA is
issuing this AD to address certain helicopters that use the same “flight/ground” logic
signal, instead of independent redundant signals. If both attitude and heading reference
systems (AHRS) incorrectly receive “ground” status in flight, as a result for instance of a
single failure, this will generate consistent erroneous computation of the attitudes and
vertical speed during helicopter maneuvers with consequent incorrect flight data

indications to the flight crew on both primary displays. Erroneous flight information could lead to increased workload for the flight crew when the upper modes of the automatic flight control system are not engaged, possibly resulting in reduced control of the helicopter during high speed maneuvers in instrumental meteorological conditions (IMC).

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 30 days after the effective date of this AD: Amend the emergency procedures of the existing rotorcraft flight manual (RFM) for your helicopter by inserting the supplemental text specified in figure 1 to paragraph (g)(1) of this AD, immediately following paragraph 9 GROUND/FLIGHT LOGIC FAULT.

Figure 1 to Paragraph (g)(1) - Supplemental Text for Paragraph 9 GROUND/FLIGHT LOGIC FAULT of the RFM

Symptoms	Condition	Consequences and procedures
<p>GRD/FLT (Post-MOD 07 23817)</p>		<p><u>Procedure:</u></p> <p>The following NOTE is added:</p> <p style="text-align: center;">NOTE</p> <p>In the event of GRD/FLT, both AHRS may provide erroneous attitude and vertical speed while ISIS remains reliable. Should this discrepancy occur it is recommended to:</p> <ul style="list-style-type: none"> - Keep on (or activate) the upper modes. - In IMC flight limit the IAS (< 120 kt) and bank angle (< 20°). <p style="text-align: right;">The rest of the paragraph is unchanged.</p>

(2) Within 100 hours time-in-service or before intentional flight into IMC, whichever occurs first after the effective date of this AD, do the wiring modification of the “flight/ground” logic signal source of the AHRS 1 in accordance with the Accomplishment Instructions of Airbus Helicopters Alert Service Bulletin No. AS332-34.00.60, Revision 1, dated March 29, 2019. After completion of the wiring modification, the RFM amendment required by paragraph (g)(1) of this AD must be removed from the existing RFM for your helicopter.

(h) Special Flight Permit

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the helicopter can be modified (if the

operator elects to do so), provided the helicopter is operated under visual flight rules only.

(i) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Airbus Helicopters Alert Service Bulletin No. AS332-34.00.60, Revision 0, dated December 6, 2018.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Rotorcraft Standards Branch, FAA, may approve AMOCs for this AD. Send your proposal to: George Schwab, Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: 817-222-5110; email: 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, notify your principal inspector or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

(k) Related Information

(1) The subject of this AD is addressed in European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD 2019-0021, dated February 1, 2019; corrected February 4, 2019. This EASA AD may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0462.

(2) For more information about this AD, contact George Schwab, Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: 817-222-5110; email: george.schwab@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (1)(3) and (4) of this AD.

(I) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Airbus Helicopters Alert Service Bulletin No. AS332-34.00.60, Revision 1, dated March 29, 2019.

(ii) [Reserved]

(3) For service information identified in this AD, contact Airbus Helicopters, 2701 N Forum Drive, Grand Prairie, TX 75052; phone: (972) 641-0000 or (800) 232-0323; fax: (972) 641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on October 19, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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